SCANOPTICS

SO-801
HAND-HELD SLIT LAMP

USER MANUAL

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User Manual

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PARTS LIST

Please check that all parts listed are present. In the case of any discrepancy, advise Scan Optics immediately.

STANDARD PARTS

- Slit lamp head
- Battery handle
- Spare lamp
- Battery charger
- Spare battery
- User Manual (this manual)

OPTIONAL SPARE PARTS

- SO-805 Spare Battery Pack
- SO-803 Lamp

CONTENTS

Use of Instrument 5
Battery Handle 8
Recharging the Battery 8
Battery Charging Safety 8
Battery Safety 9
Battery Capacity 9
Replacing the Battery 10
Lamp Replacement 11
Specifications..... 12

INSTRUCTIONS AND SPECIFICATIONS

Please read the following information carefully. Scan Optics is responsible for the safety, reliability and performance of the equipment only if it used in accordance with these instructions.

USE OF THE EQUIPMENT

1. Turn the instrument on with the lower (black) knurled ring.

2. Select the appropriate aperture. The slit lamp has three apertures which can be selected by turning the upper (silver) knurled ring. These apertures are:
   - **Disk**: 3 mm diameter. This provides a high intensity beam for maximum reflected scatter.
   - **Slit**: 0.3 mm x 12 mm. This is used for examination of the corneal stroma.
   - **Rectangle**: 0.75 mm x 2.1 mm. This is used for examination of the corneal surfaces. It also provides separated images of the corneal and iris/lens surfaces for the detection of anterior chamber flare.

3. Check the eyepiece setting. The eyepiece consists of two optical elements, and is designed for very high image quality. The eyepiece is adjustable for the refractive error of the user. To adjust the eyepiece, first move the slit lamp so that the slit itself is focussed sharply on a white surface. (The slit image is formed approximately 40 mm from the eyepiece.)

   Look through the eyepiece. Rotate the eyepiece cell to move it forwards or backwards in its thread until the slit is clear. Take care not to touch the surface of the eyepiece lens.

   The eyepiece lens is already correctly adjusted for an emmetrope when shipped from Scan Optics. For a myope, the eyepiece cell should be further forward (that is, the eyepiece lens should be closer to the slit image). For a hypermetrope, the lens barrel should be further back from the slit image. The amount of adjustment needed is approximately 1.3 mm for each D of refractive error.

4. Rotate the eyepiece bracket for left or right eye viewing as appropriate.

5. Place the slit image on the cornea of the patient, and then bring the examiner's eye to the eyepiece. This allows easier orientation than if the instrument is brought to the examiner's eye first.

6. Select the appropriate filter for the projected light by rotating the thumb wheel. The options are:

   - **Red free filter**: This filter appears green
   - **Blue filter**: This filter is suitable for viewing areas which have been treated with Fluorescein drops.
   - **No filter**

   Please ensure that the filter is correctly engaged in position (a definitive 'click' will be heard) otherwise the slit may be partially obscured.

BATTERY HANDLE

The battery pack in the Battery Handle will operate for approximately 45 minutes when fully charged. To preserve the life of the battery pack, make sure the instrument is switched off when not in use.

RECHARGING THE BATTERY

The battery is recharged from a mains power supply. First check that the mains supply voltage corresponds with the voltage marked on the battery charger plug. If the voltage is correct, unscrew the bottom of the battery handle and remove the battery by pulling it out. Place the battery in the recharger unit with the black cap protruding uppermost. One or two batteries may be recharged at the same time. The battery recharge time is 3 hours regardless of whether one or two batteries are being recharged. In order to prolong battery life, do not recharge the battery for more than three hours.

BATTERY CHARGING SAFETY

Scan Optics SO-805 batteries and SO-804 battery chargers should only be used in conjunction with each other. Do not charge the battery if the temperature is above 40 °C (105°F) or below 4 °C (40°F). Damaged batteries or a damaged recharger should never be used. Do not disassemble the charger. Do not immerse the charger or use the charger in wet or damp conditions at any time. While charging, it is normal for the transformer on the charger plug to hum and the batteries and charger to become warm. Unplug the charger while not in use.

BATTERY SAFETY

Do not store or carry the battery so that metal objects can contact the exposed metal end. The red battery caps supplied may be used to protect the end of the battery while it is not in use. Remove the battery cap before placing the battery in the slit lamp or in the charger. Do not attempt to disassemble the battery. Batteries should not be disposed of by incineration. If battery liquid gets in your eyes, flush them with clean water for a minimum of 10 minutes and seek immediate medical attention. The battery liquid is a 25 - 35% solution of potassium hydroxide.

BATTERY CAPACITY

The capacity of modern nickel cadmium batteries is not often affected by the battery discharge “memory”, and so it is not necessary to fully discharge the battery each time before charging. However, if the battery is stored for a long period it may be necessary to fully discharge and recharge it a few times to restore full capacity.

REPLACING THE BATTERY

NiCad batteries are designed to be recharged for a large number of cycles. At the end of its life, chemical changes within the cells reduce the capacity of the battery.

If the capacity of the battery falls, the battery should first be fully discharged and recharged two or three times as described above, as the cause may be reversible. However, if full capacity is not restored, the battery must be changed.

Replacement batteries can be obtained from Scan Optics. To replace the battery pack, unscrew the cap at the bottom of the Battery Handle. The new battery pack should be inserted by pushing firmly into the handle until an audible ‘click’ is heard.

LAMP REPLACEMENT

The lamp is a quartz halogen type with a rated life of 22 hours. Replacement lamps can be obtained from Scan Optics. To replace the lamp, unscrew the optical head from the handle then gently unscrew the knurled silver cap on
the end of the handle and remove the existing lamp. Insert the new lamp by holding it by the base and dropping it into the hole in the bottom of the silver cap. By holding the handle and cap upside down, the risk of dropping the lamp may be minimised. Screw the cap back onto the handle. Ensure that the cap is not fastened excessively tightly, so that damage to the lamp contacts may be avoided.

Do not touch the envelope of the bulb with bare fingers, as it may reduce the life of the bulb. If it is accidentally touched, clean with a degreasing agent such as acetone or ethanol.

SPECIFICATIONS

OPTICS

Eyepiece type	Achromat lens
Working distance	40 mm
Magnification	6.25 X
Apertures	Disk 3 mm diameter
	Slit 0.3 x 12 mm
	Rectangle 0.75 x 2.1 mm
Filters	Cobalt blue, red-free
Slit angle	35 ˚ left or right

LAMP

Type	Halogen
Rated life	22 hours
Voltage	3.6 V
Power	5.83 W
Colour temperature	3300 ˚K
MSCP	7.8

BATTERY PACK

Type	NiCad
Capacity	45 minutes (1.2 Ah)